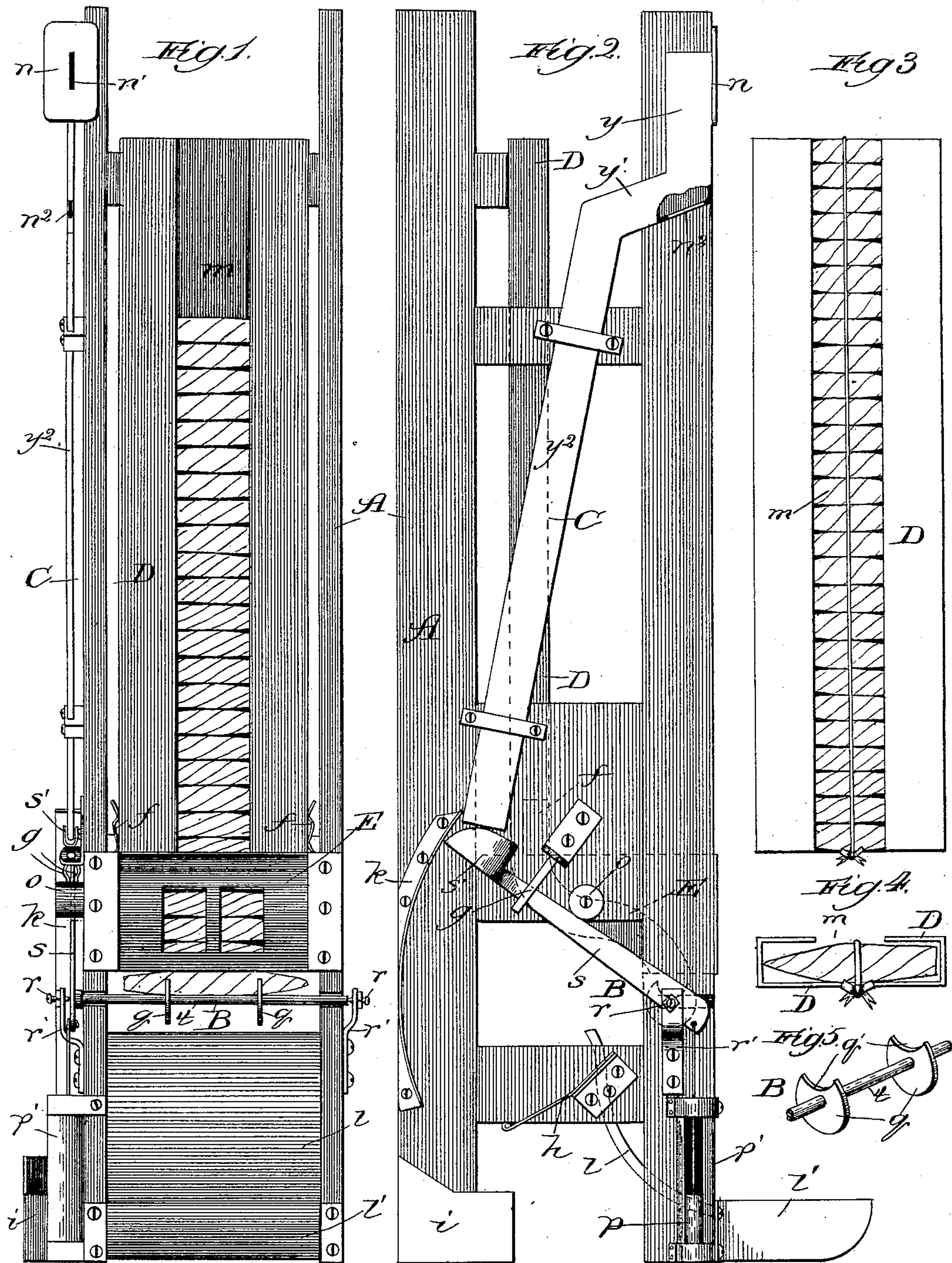


(No Model.)

J. B. MOOS.
VENDING APPARATUS.

No. 434,606.

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UNITED STATES PATENT OFFICE.

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VENDING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 434,606, dated August 19, 1890.

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To all whom it may concern:

Be it known that I, JOSEPH B. MOOS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Vending Apparatus, of which the following is a specification.

My invention relates to an improvement in vending apparatus of the class wherein the articles to be vended are inclosed by the apparatus and rendered accessible to purchasers only by delivery resulting from the insertion into the apparatus of a coin of certain value.

The object of my invention is to provide a novel and improved device of this class adapted to contain and deliver cigars, cigarettes, lead-pencils, or the like, and which shall be thoroughly effective in its operation, and of a simple, durable, and economical construction.

It is further my object to provide such a device for the vending more especially of cigars or cigarettes, adapted to receive the articles in original or stamped packages, whereby the delivery of each cigar or cigarette when the device is actuated shall be directly from such package.

The apparatus illustrated in the drawings is one particularly adapted for vending cigars, and for purposes of illustration it is shown removed from its inclosing-case.

Figure 1 is a view in front elevation of the device; Fig. 2, the same in side elevation, with a portion broken away; Fig. 3, a view in elevation of a detail; Fig. 4, an end view of the detail shown in Fig. 3, and Fig. 5 a detail in perspective.

A represents the frame of the device, which may be constructed as shown, or in any manner which will afford a proper support for the parts hereinafter described.

Located, preferably, in the lower forward portion of the frame A is discharge mechanism B, comprising a rock-shaft *t*, having formed thereon a receptacle or support for a single cigar, and carrying toward one end a fixed lever *s*. So that there need be but slight friction of the rock-shaft in its bearings, the latter are afforded by pointed set-screws *r*, which extend through yielding brackets *r'* fixed to the frame, and afford pivot-points

which engage opposite extremities of the shaft. The discharging-receptacle upon the rock-shaft is formed, preferably, for purposes of lightness of two or more stops or supports, which may be in the form of disks *g*, fixed at intervals upon the shaft *t*, which extends centrally through them and provided with circular shallow recesses *q'*, coinciding with each other in relative position. The lever *s* has a short arm, from which is suspended a weight *p*, which rises and falls in a guide or housing *p'*, and a long arm provided at its extremity with a scoop-shaped receptacle *s'*. The weight *p* operates to maintain the lever normally in an upwardly-inclined position against the under side of a stop *o*, which is fixed to the frame, and when the lever is in its said normal position the recesses *q'* are on the upper side of the rock-shaft. Extending from the upper forward part of the frame down to a point directly over the receptacle *s'*, when the latter is in its normal position, is an inclined channel or coinway C. Toward its upper end the coinway is provided with a face-plate *n*, having a slot or opening *n'* of determinate shape and dimensions. The coinway is of zigzag form, as shown, to afford a short and substantially vertical upper portion *y*, a short and slightly inclined portion *y'*, and a more or less vertical portion *y''*.

The magazine for the articles to be vended comprises an upright box D, which may be of any desired length, and is arranged to hold a single layer of the articles, and a conduit E. The box is preferably open at both ends, with a longitudinal opening *m* in its face, and is preferably adjustable into and removable from its operative position and confined toward its lower end, when in position, between spring-guides *f*. The conduit extends from the lower open end of the box D downward to a point directly over and in proper proximity to the normal position of the recesses *q'*, and its channel should equal or exceed in cross-section the interior of the box D, of which it forms practically a continuation. A chute or slide *l* extends from a point in rear of the shaft *t* down to a tray *l'*, secured upon the front side of the frame near the base thereof.

The device may be adapted to be actuated to deliver a cigar by the insertion into the

slot n' of a coin of any desired value. In the present instance it is arranged to be actuated by a five-cent nickel coin, and the slot n' is therefore of dimensions which will admit
 5 such a coin, but none larger. To prevent a coin of smaller dimensions than a nickel from reaching the discharge mechanism, I provide a slot n^2 through the under side of the coinway C in the part y' at a point directly in
 10 line with vertical portion y , which slot is a trifle smaller in dimensions than the slot n' , and therefore capable of admitting through it any coin smaller than a nickel. The shape of the coinway and location of the slots n' n^2
 15 make it necessary for every coin to fall against the slot n^2 , and it is impossible for a coin which would pass through it to roll or be thrown beyond it in the coinway.

In operation the cigars to be vended are
 20 placed in the box D, the lowermost few descending into the conduit E, with the first (the discharge mechanism being in normal position) resting in the receptacle afforded therefor, as described, by the recesses q' of
 25 the disks q , and when in the said recesses the upper side of the cigar is just below the open end of the conduit. The weight p , which holds down the short arm of the lever s , is but little heavier than is necessary to maintain
 30 the discharge mechanism in operative position, and it may be gaged so that the weight of a nickel coupled with the force of its impact against the receptacle s' , after descending through the coinway, is necessary to bear
 35 down the long arm of the lever. When a nickel therefore is inserted through the slot n' and, running down the coinway, strikes the receptacle s' , the downward swing of the long arm of the lever turns the rock-shaft and
 40 recessed disks q , which withdraw the lowermost cigar from below the mouth of the conduit E and discharge it onto the chute l , whence it rolls into the tray l' . The peripheries of the disks q being near the mouth of the con-
 45 duit, prevent the escape of the cigars therefrom as the disks rotate, and hold them until the return of the recesses q' to their normal position, and permit the next cigar to drop therein free of the conduit. Directly be-
 50 yond the path of the outer extremity of the receptacle s' and extending from the upper limit of its swing to within a proper distance from the lower limit thereof is a shield k , which projects across the open end of the
 55 receptacle s' and prevents the escape of the nickel therefrom before the said receptacle has reached substantially its lowest limit. After passing the lower end of the shield k the nickel is free to roll out of the receptacle s'
 60 into another receptacle i , placed, as shown, in position to receive it, and being freed of the weight of the coin the discharge mechanism quickly assumes its normal position. To check the downward swing of the lever
 65 and hasten its return a spring-arm h may be provided in the position shown for the lever to strike against, the resilience of the spring

causing the lever to rebound, and that the receptacle s' may always return to a position in line with the coinway a guide consisting
 70 of two flaring arms g may be provided, between which the lever will rise and be directed to its proper position.

The conduit E is inclined and of preferably ogee shape, whereby it operates to re-
 75 lieve the lower ones of the articles to be vended from the greater part of the weight of the articles above, and thus reduces the strain upon the discharge mechanism necessary to remove the lowermost article from under the
 80 one which rests immediately upon it, and to the friction of the disks against the latter article in the return of the discharge mechanism to its normal position. The conduit E, however, is not indispensable, and the box D
 85 could be caused to extend with its lower open end in the position of the mouth of the conduit and comprise in itself the magazine of the device.

As before stated, the box D is preferably
 90 adjustable into and removable from its operative position in the device. Thus the articles to be vended may be placed in the box while it is in a more or less horizontal position and away from the device, and a cord x ,
 95 tied longitudinally around the box, as shown, to hold the articles while the box is being placed in the device, when removal of the cord will permit the articles to descend into the conduit E. Two or more such boxes may
 100 be employed in connection with each vending apparatus, and one kept always filled that it may be exchanged for the one in the case whenever the latter shall become empty and the charging of the device be thus effected
 105 quickly and with ease.

As the revenue laws require that cigars be sold from their original stamped packages, the box D will afford a convenient package
 110 for the shipment and handling of cigars. The packages may be stamped, as required by law, and inserted into the device without disturbing the cigars.

The box may be of any desired material—as wood, pasteboard, or sheet metal—open or
 115 arranged to be opened at one or both ends. For shipment they may be packed in cases of desired size, and they will operate to protect the cigars in every way as well as the boxes in ordinary use.
 120

The inclosing-case for the device should obviously be provided with an opening, through which ready and convenient access
 125 may be had to the slot n' , or through which the coinway may project at its upper extremity, and with another opening to allow the articles as they are discharged to roll into the tray, which should project beyond the case, and thus be within easy reach of the purchaser. It should also have an opening closed
 130 by a door secured by a lock or the like, and through which the boxes D may be inserted and withdrawn. The case should be ornamented and attractive in appearance, and it

may be arranged to rest upon a stand or to hang upon a suitable support, as desired.

What I claim as new, and desire to secure by Letters Patent, is—

1. A vending apparatus comprising in combination a magazine for containing the articles to be vended, an oscillating support for the lowermost article, an arm directly connected to and operating the oscillating support, a coinway, and a coin-receptacle on the free end of the arm in line with the downward movement of the coin, substantially as described, whereby the coin impinges upon the arm to oscillate the support and cause the lowermost article to fall and be discharged.

2. A vending apparatus comprising in combination a magazine for containing the articles to be vended, a support for the lowermost article mounted on a rock-shaft, an arm and a counter-weight upon the rock-shaft, and a coinway, the free end of the rock-shaft arm being in the line of the movement of the falling coin, substantially as described.

3. In a vending apparatus, the combination, with a supporting-frame, of a coinway C, having an insertion-slot n' and open at its lower end, a magazine to contain the articles to be vended open at its lower extremity, and discharge mechanism comprising a rock-shaft t , provided with a receptacle for the lowermost article contained in the magazine, and carrying toward one end a lever s , weighted toward one end and provided toward its opposite end with a coin-receptacle s' , maintained by the weight normally below and in line with the coinway, whereby a coin inserted in the coinway will strike the receptacle s' and depress the lever, thus upsetting the discharge mechanism, substantially as and for the purpose set forth.

4. A vending apparatus comprising in combination a magazine for containing the articles to be vended, a sustaining and discharging mechanism for the lowermost articles comprising oscillating supports arranged at intervals across the path of the article, an arm operating the oscillating supports, a coinway, and a coin-receptacle on the free end of the arm in line with the downward movement of the coin, substantially as described, whereby the coin impinges upon the arm to oscillate the support and cause the lowermost article to fall and be discharged.

5. In a vending apparatus, the combination, with a supporting-frame, of a coinway C, having an insertion-slot n' , and open at its lower end, a magazine for the articles to be vended comprising an adjustable and removable box D, capable of containing only a single layer of the articles to be vended and open at its lower end, and discharge mechanism compris-

ing a rock-shaft t , provided with a receptacle for the lowermost article contained in the magazine and carrying toward one end a lever s , weighted toward one end and provided toward its opposite end with a coin-receptacle s' , maintained by the weight normally below and in line with the coinway, whereby a coin inserted in the coinway will strike the receptacle s' and depress the lever, thus upsetting the discharge mechanism, substantially as and for the purpose set forth.

6. In a vending apparatus, the combination, with a supporting-frame, of a coinway C, having an insertion-slot n' , and open at its lower end, a magazine for the articles to be vended comprising an adjustable and removable box D, open at its lower end, capable of containing only a single layer of the articles to be vended, and an inclined conduit E, and discharge mechanism comprising a rock-shaft t , provided with a receptacle for the lowermost article contained in the conduit, and carrying toward one end a lever s , weighted toward one end and provided toward its opposite end with a coin-receptacle s' , maintained by the weight normally below and in line with the coinway, whereby a coin inserted in the coinway will strike the receptacle s' and depress the lever, thus upsetting the discharge mechanism, substantially as and for the purpose set forth.

7. In a vending apparatus for cigars, cigarettes, and the like, in combination, a removable box constituting the magazine of an area to receive a single layer of the article, and arranged vertically and having a visual opening in its front extending from end to end, the oscillating support for the lowermost article and its operating mechanism, and an inclined conduit extending from the lower end of the box to the oscillating support, whereby the articles shall be fed downward by gravity and the pressure upon the oscillating support shall be reduced, substantially as described.

8. In a vending apparatus employing a magazine to contain the articles to be vended, means for controlling the discharge having a rock-shaft supported near the discharge end of the magazine, and carrying at intervals and at a distance apart shorter than the length of the article to be discharged peripherally curved and separate stops q , provided with peripheral recesses affording together a receptacle, and a coin-actuated oscillating arm mounted upon the rock-shaft, substantially as and for the purpose set forth.

JOSEPH B. MOOS.

In presence of—

J. W. DYRENFORTH,
M. J. FROST.